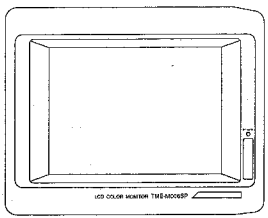
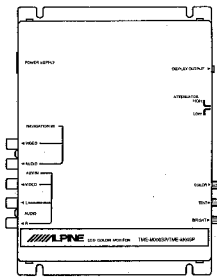
ALPINE

SERVICE MANUAL

5.6-inch LCD Color Monitor Unit

● This model is component system unit of AV Interface Unit and Monitor Unit.





TME-M006SP

Contents

● AV Interface Unit

● Monitor Unit

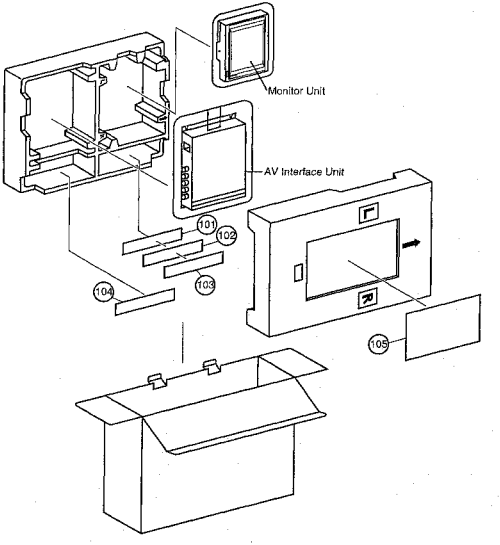
NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

Packing Assembly Parts List

Symbol No.	Part No.	Description
101	01T85426W02	Assy., Cable
102	01T25930W08	Assy., Power Wire
103-1	03S40018G07	Screw, Tapping (M4X14)
103-2	75TS8346F01	Pad, Magic Tape
104	01T85360W02	Stand, ETS77
105	68P91508W23	Owner's Manual

Symbol No.	Part No.	Description

Packing Method View



AV Interface Unit

Contents

Specifications

Output	VIDEO : 1Vp-p
	AUDIO : 500mV
Input	VIDEO : 1Vp-P
	AUDIO : 500mV
FSC	PAL : 4.433618MHz±300Hz
	NTSC : 3.579545MHz±300Hz
Audio Attenuator	HIGH : ±0dB
	LOW : -6dB
Power Supply	DC14.4V (11~16V allowable)
Semiconductors	8 IC's, 23 Transistors, 5 Diodes, 1 Zener Diodes
Dimensions (W×H×D)	202×144.5×29mm
Weight	550g

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

Adjustment Procedures

1) Preparation for adjustments

① Connect the AV interface unit to the Monitor unit .
② Connect the DC voltage regulator power supply of 14.4±0.1V to the power supply connector (ET801).
③ Set each switch / Volume of the AV interface unit to the following position.
- ATTENUATOR Level switch (S201) ..... 「HIGH」
- Volume, COLOR (VR906) / TINT (VR907) / BRIGHT (VR908) ..... 「Center Position」

Set each switch of the Monitor unit to the following position.
- Main POWER Switich (S500) ..... 「STAND BY」
- DIMMER Switich (S501) ..... 「HIGH」

2) Adjustment procedures

① Connect the DC voltmeter between T.P.1 and GND. Adjust VR901 unit the voltage level between T.P.s above becomes 0.95±0.1V.
② Connect the DC voltmeter between T.P.2 and GND. Adjust VR902 unit the voltage level between T.P.s above becomes 1.38±0.1V.
③ Connect the DC voltmeter between T.P.3 and GND. Adjust VR903 unit the voltage level between T.P.s above becomes 0.5±0.1V.
④ Connect the DC voltmeter between T.P.4 and GND. Adjust VR904 unit the voltage level between T.P.s above becomes 2.5±0.1V.
⑤ Connect the DC voltmeter between T.P.5 and GND. Adjust VR905 unit the voltage level between T.P.s above becomes 3.5±0.1V.

NOTE : For the Ajustment parts and Test Points, refer to the Parts Layout on P.C.Boards and Wiring Diagram.

Symbol No.	Part No.	Description
E205	23T75478W15	ELY., 10μF / 16V
C206	08S65128F76	CP., 0.1μF
E206	23T75478W19	ELY., 100μF / 16V
E207	23T75478W16	ELY., 22μF / 16V
E208	23T75478W15	ELY., 10μF / 16V
E209	23T75478W33	ELY., 0.1μF / 50V
E210	23T75478W16	ELY., 22μF / 16V
E401	23T75478W37	ELY., 1μF / 50V
E402	23T75478W37	ELY., 1μF / 50V
C801	08S65128F76	CP., 0.1μF
E801	23T75479W63	ELY., 2200μF / 16V
E802	23T75478W15	ELY., 10μF / 16V
C803	08S65128F76	CP., 0.1μF
E803	23T75478W15	ELY., 10μF / 16V
C804	08S65128F76	CP., 0.1μF
C807	08S65128F76	CP., 0.1μF
E807	23T75479W27	ELY., 470μF / 16V
C808	08S65128F76	CP., 0.1μF
E808	23T75479W63	ELY., 2200μF / 16V
C809	08S65128F76	CP., 0.1μF
E809	23T75479W63	ELY., 2200μF / 16V
E811	23T75478W15	ELY., 10μF / 16V
E812	23T75478W18	ELY., 47μF / 16V
C813	08S65128F76	CP., 0.1μF
E813	23T75478W15	ELY., 10μF / 16V
E814	23SS53116W51	CP., TAN. 1μF / 25V
E815	23T75479W27	ELY., 470μF / 16V
C901	08S65128F76	CP., 0.1μF
E901	23T75478W20	ELY., 220μF / 16V
C902	08S65128F21	CP., 27pF
E902	23T75478W20	ELY., 220μF / 16V
C903	08S65128F69	CP., 0.01μF
E903	23T75478W16	ELY., 22μF / 16V
C904	08S65128F69	CP., 0.01μF
E904	23T75478W16	ELY., 22μF / 16V
C905	08S65128F69	CP., 0.01μF
E905	23T75478W19	ELY., 100μF / 16V
C906	08S65128F69	CP., 0.01μF
E906	23T75478W15	ELY., 10μF / 16V
C907	08S65128F69	CP., 0.01μF
E907	23T75478W15	ELY., 10μF / 16V
C908	08S65128F28	CP., 51pF
E908	23T75478W15	ELY., 10μF / 16V
C909	08S65128F20	CP., 24pF
E909	23T75478W37	ELY., 1μF / 50V
C910	08S65128F72	CP., 0.022μF
E910	23T75478W37	ELY., 1μF / 50V
C911	08S65128F69	CP., 0.01μF
E911	23T75478W15	ELY., 10μF / 16V

Symbol No.	Part No.	Description
C912	08S82122F13	CP., 10pF
E912	23T75478W15	ELY., 10μF / 16V
C913	08S65128F72	CP., 0.022μF
E913	23T75478W37	ELY., 1μF / 50V
C914	08S82122F18	CP., 18pF
E914	23T75478W16	ELY., 10μF / 16V
C915	08S65128F69	CP., 0.01μF
E915	23T75478W37	ELY., 1μF / 50V
C916	08S65128F72	CP., 0.022μF
E916	23T75478W38	ELY., 2.2μF / 50V
C917	08S65128F12	CP., 10pF
C918	08S65128F17	CP., 18pF
E918	23T75478W15	ELY., 10μF / 16V
C919	08S65128F69	CP., 0.01μF
C920	08S65128F76	CP., 0.1μF
E920	23T75478W15	ELY., 10μF / 16V
C921	08S65128F69	CP., 0.01μF
E921	23T75478W19	ELY., 100μF / 16V
C922	08S65128F69	CP., 0.01μF
E922	23T75478W40	ELY., 4.7μF / 50V
C923	08S65128F69	CP., 0.01μF
E923	23T75478W16	ELY., 22μF / 16V
C924	08S65128F69	CP., 0.01μF
E924	23T75478W19	ELY., 100μF / 16V
C925	08S65128F76	CP., 0.1μF
E925	23T75478W40	ELY., 4.7μF / 50V
C926	08S65128F76	CP., 0.1μF
E926	23T75478W16	ELY., 22μF / 16V
E927	23T75478W19	ELY., 100μF / 16V
E928	23T75478W19	ELY., 100μF / 16V
E929	23T75478W40	ELY., 4.7μF / 50V
E930	23T75478W16	ELY., 22μF / 16V
E931	23T75478W19	ELY., 100μF / 16V
E932	23T75478W40	ELY., 4.7μF / 50V
E933	23T75478W16	ELY., 22μF / 16V
E934	23T75478W19	ELY., 100μF / 16V
E935	23T75478W15	ELY., 10μF / 16V
C997	23S82372F18	ELY., (B.P) 1μF / 50V
C999	23S82372F18	ELY., (B.P) 1μF / 50V

Resistors

(All resistors are chip 1/10W±5% unless otherwise noted.)

R201	06S64995F84	20K ohm
R202	06S64995F84	20K ohm
R203	06S64995F84	20K ohm
R204	06S64995F77	10K ohm
R205	06S64995F77	10K ohm
R206	06S64995F84	20K ohm

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Symbol No.	Part No.	Description
R207	06S64995F84	20K ohm
R208	06S64995F84	20K ohm
R209	06S64995F84	20K ohm
R210	06S64995F77	10K ohm
R211	06S64995F77	10K ohm
R213	06S64996F02	100K ohm
R214	06S64995F53	1K ohm
R215	06S64995F53	1K ohm
R216	06S64995F89	33K ohm
R217	06S64995F93	47K ohm
R218	06S64995F45	470 ohm
R219	06S64995F53	1K ohm
R401	06S64995F69	4.7K ohm
R402	06S64995F93	47K ohm
R403	06S64995F77	10K ohm
R404	06S64995F69	4.7K ohm
R405	06S64995F53	1K ohm
R406	06S64995F84	20K ohm
R407	06S64995F53	1K ohm
R408	06S64995F61	2.2K ohm
R409	06S64996F02	100K ohm
R410	06S64995F84	20K ohm
R411	06S64995F93	47K ohm
R412	06S64995F81	15K ohm
R413	06S64995F93	47K ohm
R414	06S64995F84	20K ohm
R415	06S64995F81	15K ohm
R801	06S64995F77	10K ohm
R802	06S70072F63	2.7K ohm 1/4W
R809	06S70072F63	2.7K ohm 1/4W
R804	06S64995F79	12K ohm
R805	06S64995F77	10K ohm
R806	06S70072F63	2.7K ohm 1/4W
R807	06S70072F63	2.7K ohm 1/4W
R808	06S64995F79	12K ohm
R809	06S70072F53	1K ohm 1/4W
R810	06S70072F53	1K ohm 1/4W
R811	06S64995F61	2.2K ohm
R812	06S64996F10	220K ohm
R813	06S64995F71	5.6K ohm
R814	06S64995F98	75K ohm
R815	06S64995F96	62K ohm
R816	06S64995F88	30K ohm
R817	06S64995F70	5.1K ohm
R818	06S70072F49	680 ohm 1/4W
R820	06S70072F32	130 ohm 1/4W
R821	06S70072F32	130 ohm 1/4W
R822	06S70072F32	130 ohm 1/4W
R826	06S64995F05	10 ohm

Symbol No.	Part No.	Description
R827	06S70072F32	130 ohm 1/4W
R903	06S64995F26	75 ohm
R904	06S64995F26	75 ohm
R905	06S64995F29	100 ohm
R907	06S64995F84	20K ohm
R908	06S64995F84	20K ohm
R909	06S64995F53	1K ohm
R910	06S64995F53	1K ohm
R911	06S64995F41	330 ohm
R912	06S64995F53	1K ohm
R913	06S64995F47	560 ohm
R914	06S64995F47	560 ohm
R915	06S64995F53	1K ohm
R916	06S64995F77	10K ohm
R917	06S64995F77	10K ohm
R918	06S64995F77	10K ohm
R919	06S64995F77	10K ohm
R921	06S64995F97	68K ohm
R922	06S64995F76	9.1K ohm
R923	06S64995F92	43K ohm
R924	06S64995F77	10K ohm
R925	06S64995F97	68K ohm
R926	06S64995F64	3K ohm
R927	06S64995F53	1K ohm
R928	06S64995F91	39K ohm
R929	06S64995F91	39K ohm
R930	06S64995F91	39K ohm
R931	06S64995F93	47K ohm
R932	06S64995F55	1.2K ohm
R933	06S64996F05	130K ohm
R934	06S64995F77	10K ohm
R935	06S64995F77	10K ohm
R936	06S64995F77	10K ohm
R937	06S64995F77	10K ohm
R938	06S64995F77	10K ohm
R939	06S64996F35	5.6M ohm
R940	06S64995F43	390 ohm
R941	06S64995F61	2.2K ohm
R942	06S64996F70	5.1K ohm
R943	06S64995F77	10K ohm
R944	06S64996F35	5.6M ohm
R945	06S64995F53	1K ohm
R946	06S64996F35	5.6M ohm
R947	06S64995F51	820 ohm
R948	06S64995F84	20K ohm
R949	06S64995F84	20K ohm
R950	06S64995F77	10K ohm
R951	06S64995F53	1K ohm
R953	06S64995F75	8.2K ohm

Symbol No.	Part No.	Description
R958	0SS64995F85	22K ohm
R959	0SS64995F85	22K ohm
R960	0SS64995F53	1K ohm
R961	0SS64995F84	20K ohm
R962	0SS64995F55	1.2K ohm
R963	0SS64995F88	30K ohm
R964	0SS64995F64	3K ohm
R965	0SS64995F78	9.1K ohm
R966	0SS64995F84	20K ohm
R967	0SS64995F85	22K ohm
R968	0SS64995F53	1K ohm
VR901	18T45357W13	Variable, CP, 10K ohm
VR902	18T45357W13	Variable, CP, 10K ohm
VR903	18T45357W13	Variable, CP, 10K ohm
VR904	18T45357W13	Variable, CP, 10K ohm
VR905	18T45357W13	Variable, CP, 10K ohm

Miscellaneous

ET501	09T25842W06	Power Supply Connector
ET901	09T86443W01	16P Connector (To Monitor Unit)
JK201	09T75320W01	RCA Jack, NAVIGATION IN
JK202	09T75321W01	RCA Jack, VCR IN
S201	40T94668F03	Slide Switch, SSSF1214 (ATTENUATOR HIGH/LOW)
VR906	18T55389W06	Rotary Volume, 50K ohm (COLOR)
VR907	18T55389W06	Rotary Volume, 50K ohm (TINT)
VR908	18T55389W06	Rotary Volume, 50K ohm (BRIGHT)

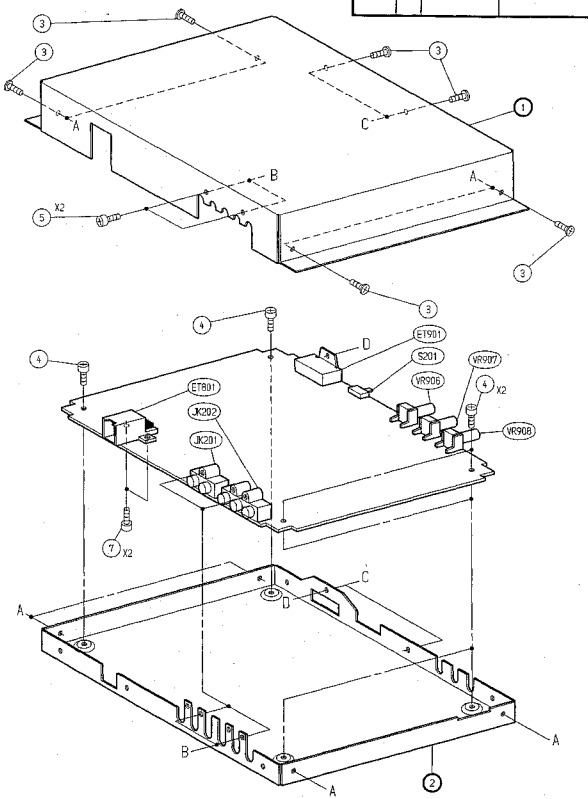
Symbol No.	Part No.	Description

Exploded View (Cabinet)

Cabinet Assembly Parts List

NOTE:No parts number on parts list are not supplied.

Symbol No.	Index	Part No.	Description
3		03S39013W33	Screw, Flat (M2.6X5)
4		03S44205G48	Screw, Pan (M2.6X5)
5		03S68555F42	Screw, Pan (M3X6)
7		03S63857F51	Screw, Tapping (M3X10)



Monitor Unit

Contents

Specifications

Screen Size	6-type
Display System	Low reflection rear projection type TN liquid crystal panel
Drive System	Active matrix drive, normally white display
Number of Picture Elements	228, 480 pcs. NTSC (H : 960×V : 238 dots)
	230, 400 pcs. PAL (H : 960×V : 240 dots)
Light Source	Internal optical system (U-type cold cathode fluorescent tube)
Semiconductors	6 IC's, 14 Transistors, 2 Diodes, 3 Zener Diodes
Dimensions (W×H×D)	171×127×33mm
Weight	510g

NOTE : Due to Continuing product improvement, specifications and designs are subject to change without notice.

Adjustment Procedures

1) Preparation for adjustments

① Connect the AV interface unit to the Monitor unit .

② Connect the DC voltage regulator power supply of 14.4±0.1V to the power supply connector (ET801).

③ Set each switch of the AV interface unit to the following position.

- ATTENUATOR switch (S201) ..... 「LOW」
- Volume, COLOR (VR906) / TINT (VR907) / BRIGHT (VR908) ..... 「Center Position」

Set each switch of the Moniter unit to the following position.

- Main POWER Switich (S500) ..... 「STAND BY」
- DIMMER Switich (S501) ..... 「HIGH」

④ Supply the composite video signal (color bar signal including 100% white) to the VIDEO input terminal (JK202-1) on the AV interface Unit.

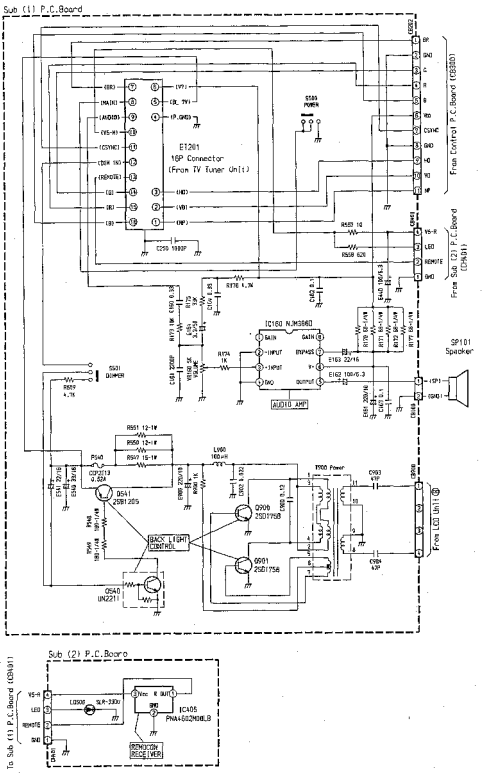
2) Free-run frequency adjustment (VR600) - Screen centering adjustment.

① Connect the DC voltmeter (full-scale more than 5V, resolution 10mV) between T.P.600 (PLL Adjust) and T.P.307 (GND).

② Adjust VR600 until the voltage between T.P.s above becomes 1.7 ±0.1V.

NOTE : For the Ajustment parts and Test Points, refer to the Parts Layout on P.C.Boards and Wiring Diagram.

Schematic Diagram (2/2)



Terminal Voltage of IC/TR

IC160

1	NC	
2	0.553mV	
3	waveform245, 246	
4	0.553mV	
5	waveform247, 248	
6	8.36V	
7	waveform249	
8	NC	

IC300

1	4.914V	
2	10µV	
3	7.258V	

IC405

1	8.033V	
2	0.543mV	
3	5.02V	at Remocon Signal Receive : waveform250

IC500

1~3	3.152V	
4	-5.521V	
5	2.016V	
6	1.998V	
7	1.758V	
8	7.017V	

IC501

1	waveform185	
2	10µV	
3	-20.81V	
4	-21.33V	
5	-20.09V	
6, 7	7.017V	
8	waveform185	

D500

1 (A)	-21.33V	
2 (C)	waveform255	
3 (A)	-21.33V	

LD500

A	1.89V	
C	0.503mV	

IC600

1	4.914V	30	waveform194	53~62	4.914V
2	waveform186	31	4.914V	62	3.175V
3~6	4.914V	32	10µV	64	4.914V
7	1.094V	33	waveform195	65	3.72mV
8	waveform187	34	waveform196	66	waveform206
9	24.04mV	35	waveform195	67	waveform207, 208
10	1.094V	36	4.981V	68	NC
11	waveform188	37~40	4.914V	69	waveform209, 210
12	24.04mV	41	4.883V	70	4.2mV
13	10µV	42	4.914V	71	waveform211, 212
14	4.883V	43	10µV	72	10µV
15	1.094V	44	4.914V	73	4.914V
16	waveform189	45	waveform197	74	waveform213, 214
17	24.04mV	46	waveform198, 199	75	waveform215, 216
18, 19	10µV	47	waveform200	76	waveform217, 218
20	waveform190	48	waveform201	77	waveform219, 220
21	waveform191	49	waveform202	78	waveform221, 222
22	waveform192, 193	50	waveform203	79	waveform223, 224
23, 24	NC	51	waveform204, 205	80	waveform225, 226
25~29	4.914V	52	10µV		

Q540

E	76.2mV	waveform251
C	167mV	at Back Light Low (DIMMER IN "H") : 6.84V
B	5.308V	at Back Light Low (DIMMER IN "H") : 25mV

Q541

E	7.292V	at Back Light Low (DIMMER IN "H") : 7.209V
C	7.333V	at Back Light Low (DIMMER IN "H") : 5.818V
B	6.493V	at Back Light Low (DIMMER IN "H") : 6.439V

Q900

E	76.2mV	waveform251
C	waveform252	at Back Light Low (DIMMER IN "H") : waveform252
B	waveform254	at Back Light Low (DIMMER IN "H") : waveform255

Q901

E	76.2mV	waveform251
C	waveform256	at Back Light Low (DIMMER IN "H") : waveform257
B	waveform258	at Back Light Low (DIMMER IN "H") : waveform258

	E	C	B
Q300	1.094V	10µV	0.444mV
Q500	-5.521V	-21.91V	-2.634V
Q504	4.914V	waveform232	waveform233, 234
Q505	7.017V	waveform235	waveform235

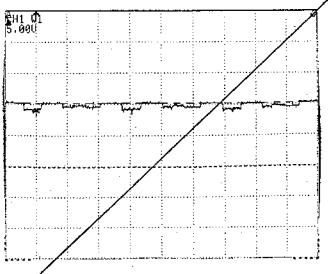
	1 (A)	2 (C)
D501	4.914V	waveform243
ZD500	10µV	7.258V
ZD501	-20.09V	10µV
ZD600	-2.67V	10µV
VD600	-835mV	waveform244

	1	2	3	4	5	6
Q501	waveform227, 228	waveform227, 228	10µV	-20.58V	waveform227, 228	10µV
Q502	waveform229	waveform229	10µV	waveform230	waveform229	10µV
Q503	waveform230	waveform231	-21.91V	waveform231	waveform231	-21.91V
Q600	waveform237	waveform237	4.914V	waveform238	waveform237	4.914V
Q601	waveform239	waveform239	4.914V	waveform240	waveform239	4.914V
Q602	waveform241	waveform241	4.914V	waveform242	waveform241	4.914V

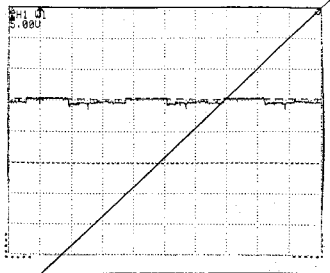
NOTE : For the terminal voltage not mentioned, the voltage indication is omitted for the voltage varies depend on the operation mode.

[Measuring Conditions]

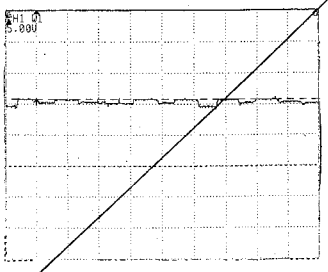
- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : AV Interface Unit Connection
- RF : Color bar input (※ch1 ANT1)
- DIMMER SW : AUTO Mode (※DIMMER IN terminal : OPEN)
- Speaker Volume : MAX
- FMT : ON (※20ch)
- NAVI Input : No signal
- VIDEO input : No signal



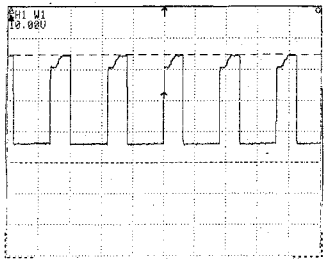
波形No. 182	Volt/Div= 1 V/Div		
DC・AC・	Time/Div= 20 μ S/Div		



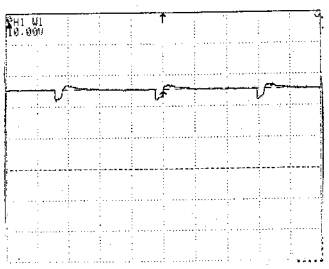
波形No. 183	Volt/Div= 1 V/Div		
DC・AC	Time/Div= 20 μ S/Div		



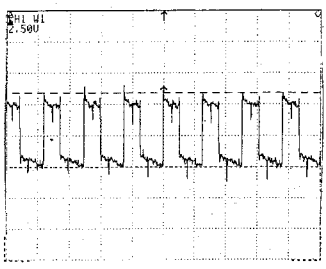
波形No. 184	Volt/Div= 1 V/Div		
DC・AC	Time/Div= 10 μ S/Div		



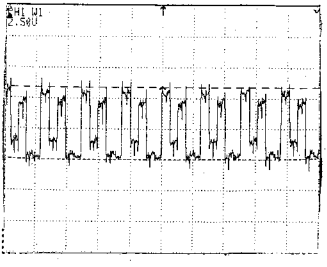
No. 185	Volt/Div= 2 V/Div		
DC・AC	Time/Div= 10μ S/Div		



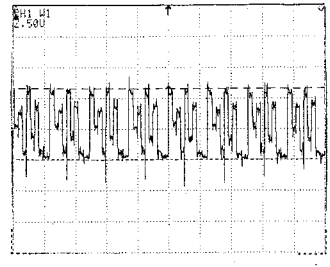
No. 186	Volt/Div= 2 V/Div		
DC・AC	Time/Div= 20 μ S/Div		



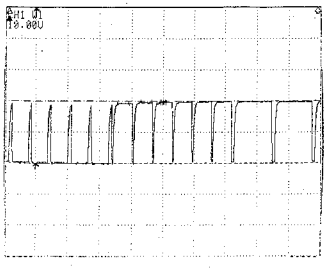
No. 187	Volt/Div= 500m V/Div		
DC・AC	Time/Div= 50 μ S/Div		



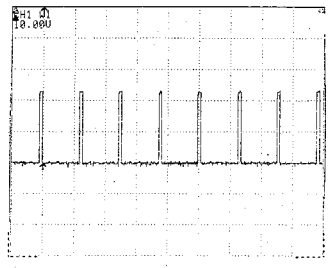
No. 188	Volt/Div= 500m V/Div
DC · AC	Time/Div= 50 μ S/Div



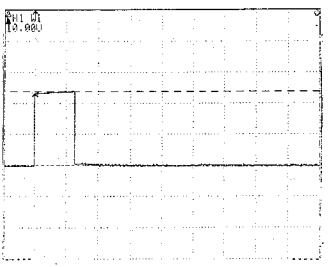
No. 189	Volt/Div= 500m V/Div
DC · AC	Time/Div= 50 μ S/Div



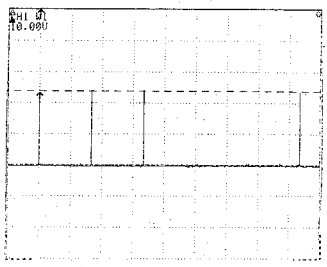
No. 190	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 μ S/Div



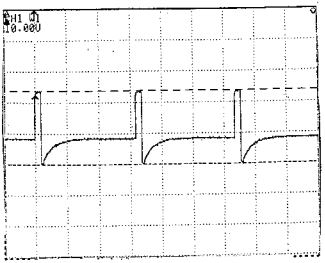
No. 191	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 μ S/D



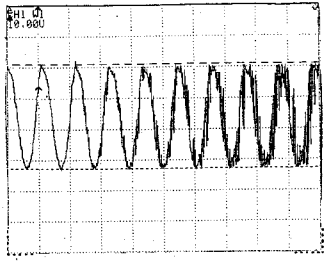
No. 192	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 μ S/Div



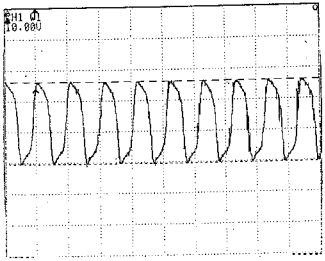
No. 193	Volt/Div= 2 V/Div
DC · AC	Time/Div= 10m S/Div



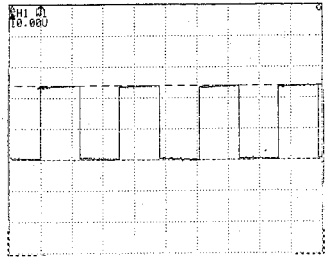
No. 194	Volt/Div= 2 V/Div
DC · AC	Time/Div= 20 μS/Div



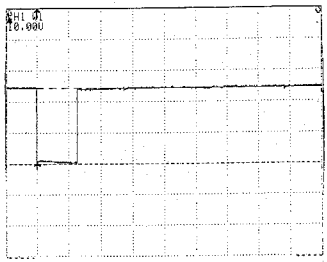
No. 195	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 n S/Div



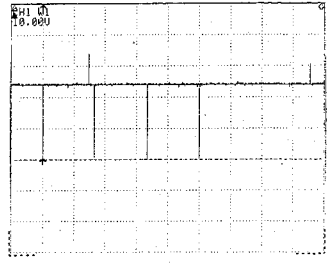
No. 196	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 n S/Div



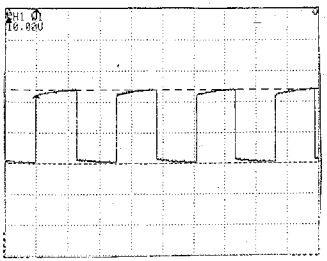
No. 197	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 μ S/Div



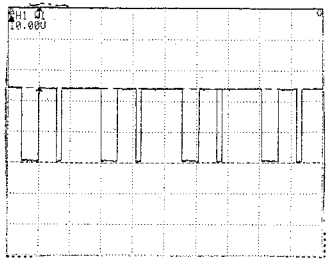
No. 198	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 μ S/Div



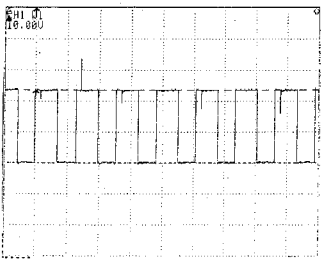
No. 199	Volt/Div= 2 V/Div
DC · AC	Time/Div= 10 m S/Div



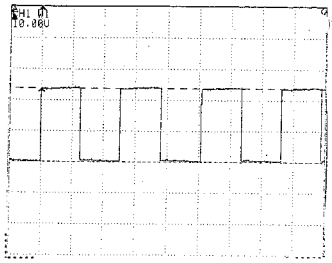
No. 200	Volt/Div=	2	V/Div
DC · AC	Time/Div=	50 μ	S/Div



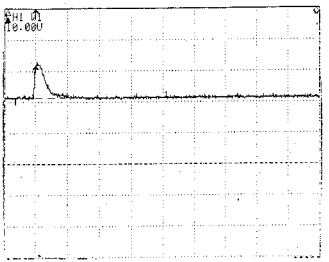
No. 201	Volt/Div=	2	V/Div
DC · AC	Time/Div=	50 μ	S/Div



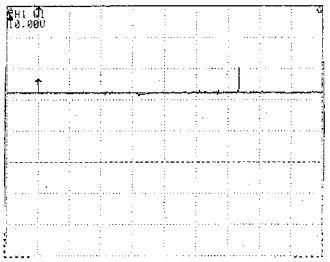
No. 202	Volt/Div=	2	V/Div
DC · AC	Time/Div=	50 μ	S/Div



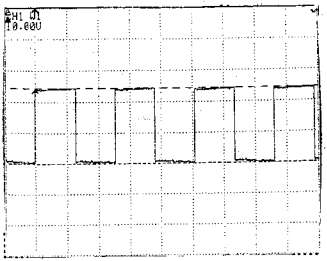
No. 203	Volt/Div=	2	V/Div
DC · AC	Time/Div=	50 μ	S/D



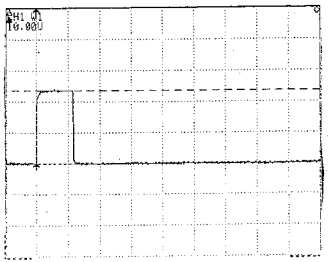
No. 204	Volt/Div=	2	V/Div
DC · AC	Time/Div=	200 n	S/Div

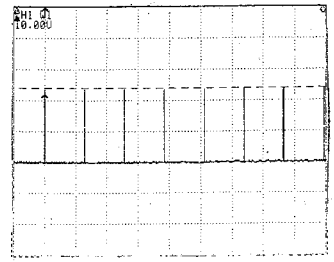


No. 205	Volt/Div=	2	V/Div
DC · AC	Time/Div=	20 μ	S/Div

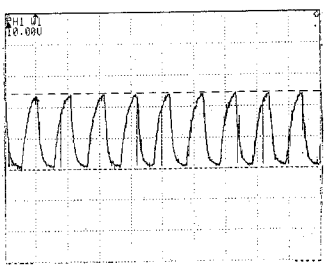


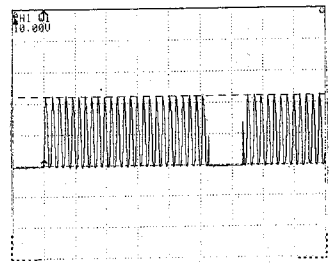
No. 206	Volt/Div=	2 V/Div	No.	Volt/Div=	V/Div
DC · AC	Time/Div=	50 μ S/Div	DC · AC	Time/Div=	S/Div





No. 207	Volt/Div=	2 V/Div	No. 208	Volt/Div=	2 V/Div
DC · AC	Time/Div=	500 n S/Div	DC · AC	Time/Div=	50 μ S/Div





No. 209	Volt/Div=	2 V/Div	No. 210	Volt/Div=	2 V/Div
DC · AC	Time/Div=	100 n S/Div	DC · AC	Time/Div=	10 μ S/Div

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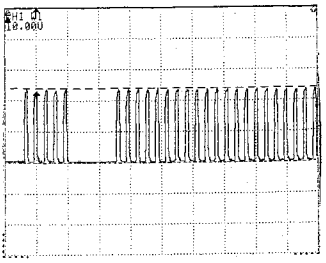
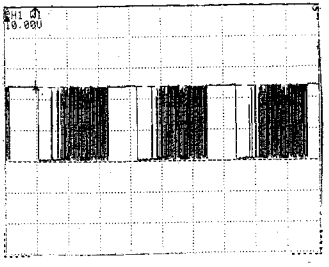
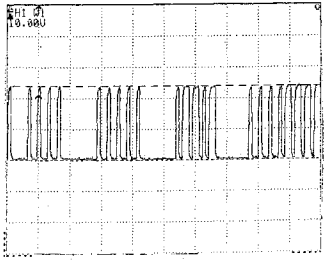


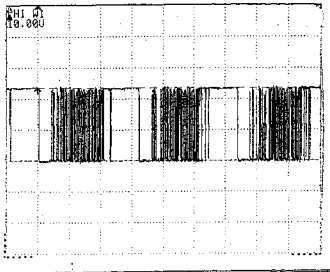
No. 211	Volt/Div= 2 V/Div
DC · AC	Time/Div= 500 n S/Div



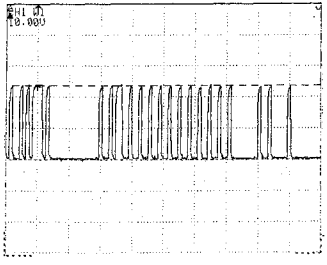
No. 212	Volt/Div= 2 V/Div
DC · AC	Time/Div= 20 μ S/Div



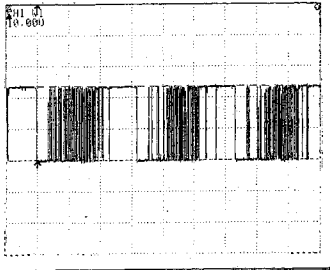
No. 213	Volt/Div= 2 V/Div
DC · AC	Time/Div= 500n S/Div



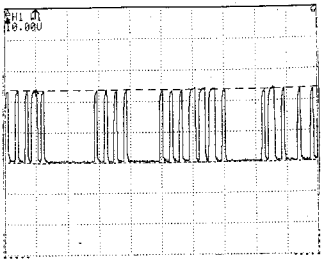
No. 214	Volt/Div= 2 V/Div
DC · AC	Time/Div= 20 μ S/D

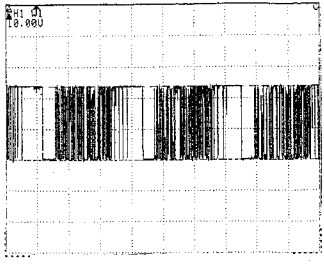


No. 215	Volt/Div= 2 V/Div
DC · AC	Time/Div= 500n S/Div

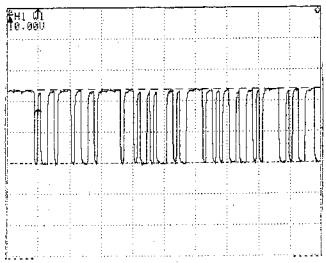


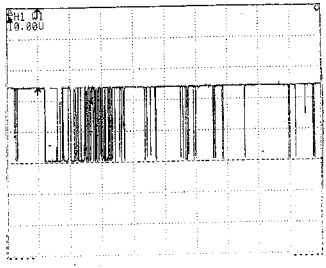
No. 216	Volt/Div= 2 V/Div
DC · AC	Time/Div= 20 μ S/Div



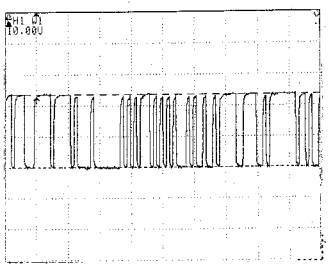


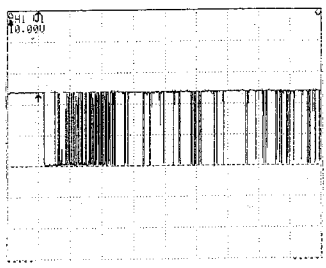
No. 217	Volt/Div= 2 V/Div	No. 218	Volt/Div= 2 V/Div
(DC) · AC	Time/Div= 500n S/Div	DC · AC	Time/Div= 20μ S/Div





No. 219	Volt/Div= 2 V/Div	No. 220	Volt/Div= 2 V/Div
(DC) · AC	Time/Div= 500n S/Div	DC · AC	Time/Div= 10μ S/Div





No. 221	Volt/Div= 2 V/Div	No. 222	Volt/Div= 2 V/Div
DC · AC	Time/Div= 500n S/Div	(DC) · AC	Time/Div= 10μ S/Div

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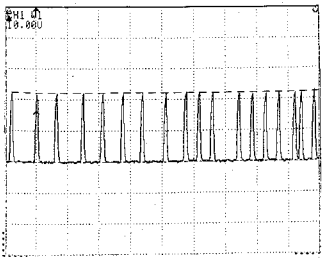
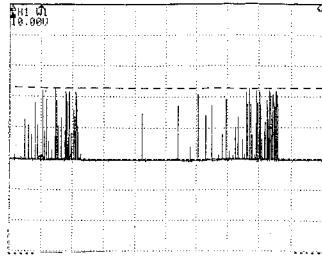
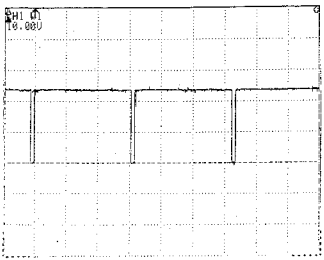


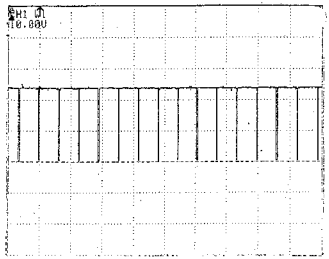
No. 223	Volt/Div= 2 V/Div
DC · AC	Time/Div= 500m S/Div



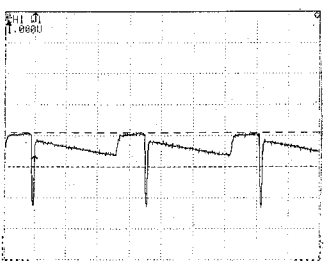
No. 224	Volt/Div= 2 V/Div
DC · AC	Time/Div= 10 μ S/Div



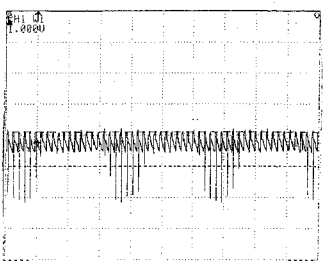
No. 225	Volt/Div= 2 V/Div
DC · AC	Time/Div= 20 μ S/Div



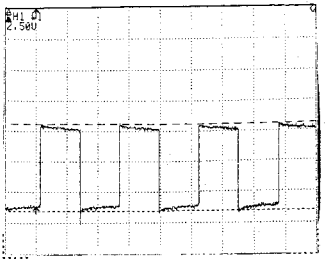
No. 226	Volt/Div= 2 V/Div
DC · AC	Time/Div= 100 μ S/D



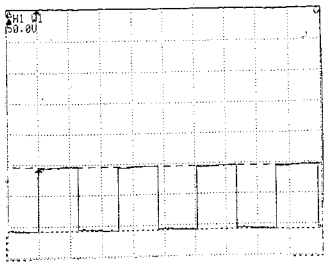
No. 227	Volt/Div= 200m V/Div
DC · AC	Time/Div= 5 μ S/Div



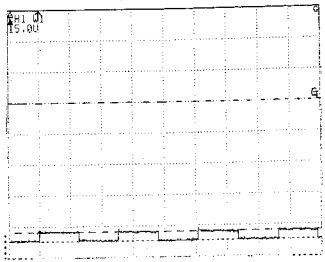
No. 228	Volt/Div= 200m V/Div
DC · AC	Time/Div= 100 μ S/Div



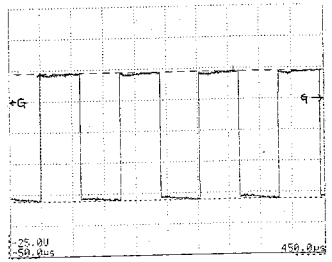
No. 229	Volt/Div=	500m	V/Div
DC · AC	Time/Div=	50 μ	S/Div



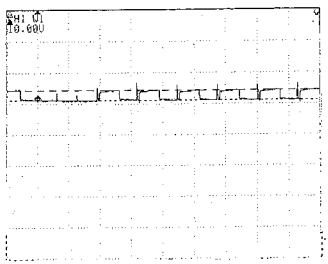
No. 230	Volt/Div=	10	V/Div
DC · AC	Time/Div=	50 μ	S/Div



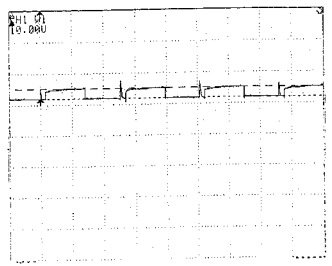
No. 231	Volt/Div=	5	V/Div
DC · AC	Time/Div=	50 μ	S/Div



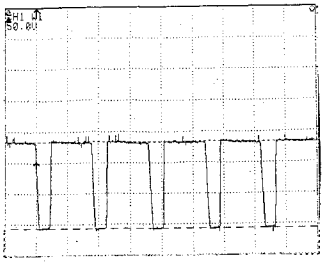
No. 232	Volt/Div=	5	V/Div
DC · AC	Time/Div=	50 μ	S/Div



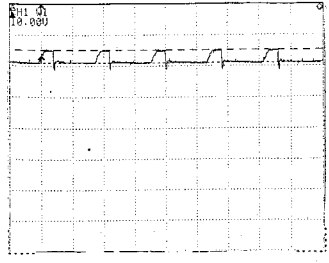
No. 233	Volt/Div=	2	V/Div
DC · AC	Time/Div=	100 μ	S/Div



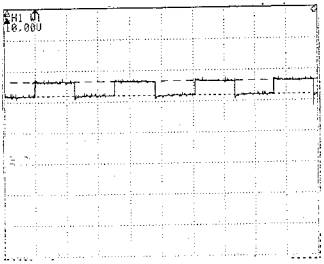
No. 234	Volt/Div=	2	V/Div
DC · AC	Time/Div=	50 μ	S/Div



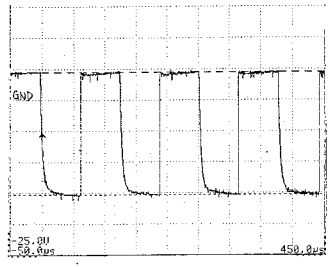
No. 235	Volt/Div= 10 V/Div		
DC · AC	Time/Div= 10 μ S/Div		



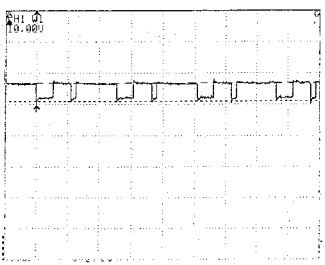
No. 236	Volt/Div= 2 V/Div		
DC · AC	Time/Div= 10 μ S/Div		



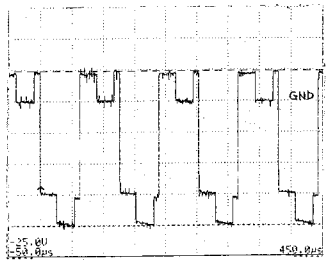
No. 237	Volt/Div= 2 V/Div		
DC · AC	Time/Div= 50 μ S/Div		



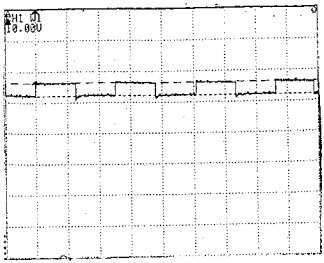
No. 238	Volt/Div= 5 V/Div		
DC · AC	Time/Div= 50 μ S/Div		



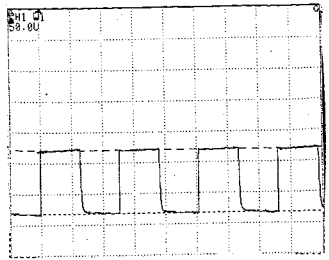
No. 239	Volt/Div= 2 V/Div		
DC · AC	Time/Div= 50 μ S/Div		



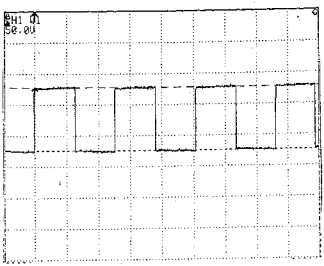
No. 240	Volt/Div= 5 V/Div		
DC · AC	Time/Div= 50 μ S/Div		



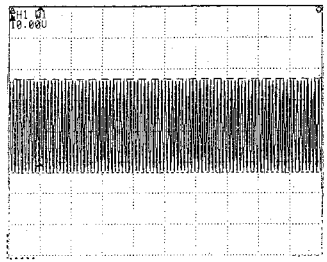
No. 241	Volt/Div= 2 V/Div
DC · AC	Time/Div= 50 μ S/Div



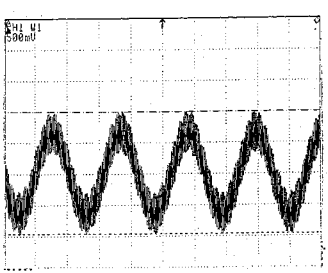
No. 242	Volt/Div= 10 V/Div
DC · AC	Time/Div= 50 μ S/Div



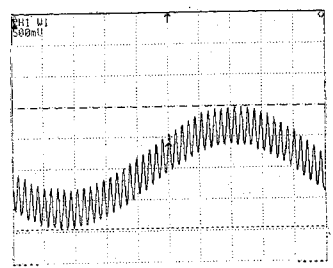
No. 243	Volt/Div= 10 V/Div
DC · AC	Time/Div= 50 μ S/Div



No. 244	Volt/Div= 2 V/Div
DC · AC	Time/Div= 500 n S/Div



No. 245	Volt/Div= 100 m V/Div
DC · AC	Time/Div= 500 μ S/Div



No. 246	Volt/Div= 100 m V/Div
DC · AC	Time/Div= 100 μ S/Div

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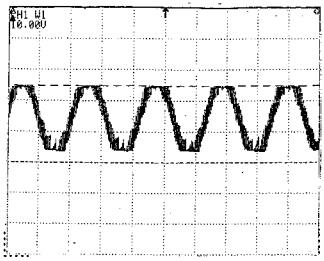
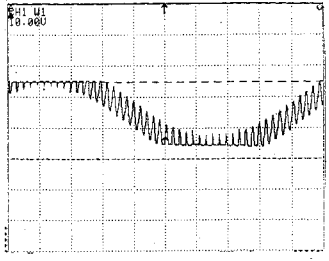
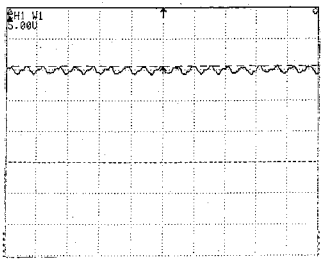


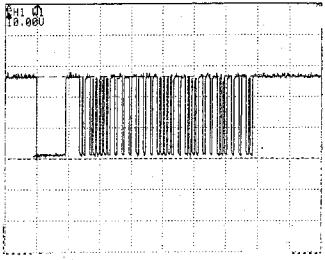
No. 247	Volt/Div= 2 V/Div
DC · AC	Time/Div= 500μS/Div



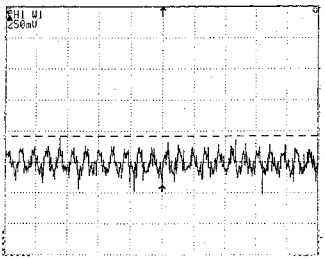
No. 248	Volt/Div= 2 V/Div
DC · AC	Time/Div= 100 μ S/Div



No. 249	Volt/Div= 1 V/Div
DC · AC	Time/Div= 2m S/Div

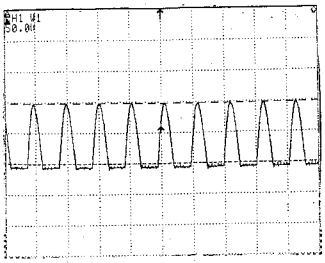


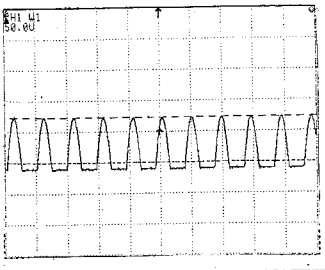
No. 250	Volt/Div= 2 V/Div
DC · AC	Time/Div= 10 m S/Di



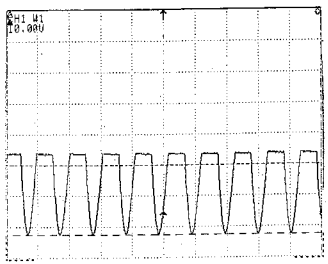
No. 251	Volt/Div= 50 m V/Div
DC · AC	Time/Div= 50 μ S/Div

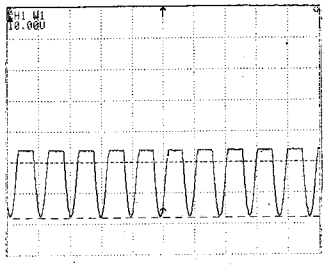
No.	Volt/Div= V/Div
DC · AC	Time/Div= S/Div



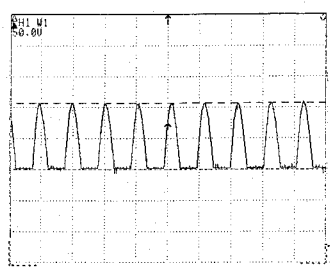


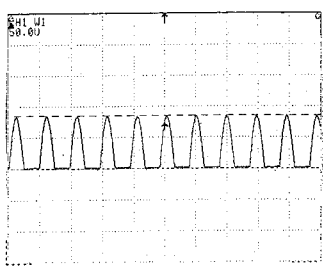
No. 252	Volt/Div=	10	V/Div	No. 253	Volt/Div=	10	V/Div
DC · AC	Time/Div=	20 μ	S/Div	DC · AC	Time/Div=	20 μ	S/Div



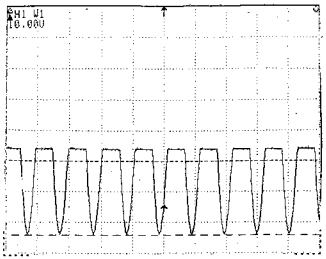


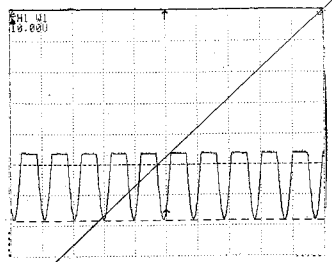
No. 254	Volt/Div=	2	V/Div	No. 255	Volt/Div=	2	V/Div
DC · AC	Time/Div=	20 μ	S/Div	DC · AC	Time/Div=	20 μ	S/Div





No. 256	Volt/Div=	10	V/Div	No. 257	Volt/Div=	10	V/Div
DC · AC	Time/Div=	20 μ	S/Div	DC · AC	Time/Div=	20 μ	S/Div





No. 258	Volt/Div= 2 V/Div	No. 259	Volt/Div= 2 V/Div
DC・AC	Time/Div= 20 μ S/Div	DC・AC	Time/Div= 20 μ S/Div

波形No.	Volt/Div= V/Div	波形No.	Volt/Div= V/Div
DC・AC	Time/Div= S/Div	DC・AC	Time/Div= S/Div

波形No.	Volt/Div= V/Div	波形No.	Volt/Div= V/Div
DC・AC	Time/Div= S/Div	DC・AC	Time/Div= S/Div

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μ F=microfarads,pF=picofarads

Abbreviations

RES.= Resistor
C.F.= Carbon Film
M.F.= Metal Film
M.O.= Metal Oxide Film
M.P.= Metal Plate
TR. = Transistor
TRANS.= Transformer
CP. = Chip
CAP.= Capacitor
ELY.= Electrolytic
CER.= Ceramic
MYL.= Mylar
TAN.= Tantalum
POLY.= Polystyrol
PP. = Polypropylene
PLT.= Polyethylene
PF. = Polyester Film

Control P.C.Board

IC's

Symbol No.	Part No.	Description
IC300	51E24494S01	HA178L05UA
IC500	51E24245S01	BA10358F
IC501	51E24250S01	M5291FP
IC600	51E25075S01	EV9513C

Transistors

Symbol No.	Part No.	Description
Q300	48E24502S01	CP., 2SB709A
Q500	48E24502S01	CP., 2SB709A
Q501	48E24503S01	CP., XN4601
Q502	48E24503S01	CP., XN4601
Q503	48E24503S01	CP., XN4601
Q504	48E24502S01	CP., 2SB709A
Q505	48E25078S01	CP., 2SB799
Q600	48E24503S01	CP., XN4601
Q601	48E24503S01	CP., XN4601
Q602	48E24503S01	CP., XN4601

Diodes

Symbol No.	Part No.	Description
D500	48E24504S01	CP., MA142WK
D501	48E24510S01	CP., RB110C
ZD500	48E24509S01	Zener, CP. MA3160-H
ZD501	48E25079S01	Zener, CP. MA3330-L
ZD600	48E24508S01	Zener, CP. MA3056-L
VD600	48E25852S01	Varactor, CP. 1T363A

Filters

Symbol No.	Part No.	Description
Z300	25E24596S01	EMI, CP. BLM21B751SPT
Z301	25E24596S01	EMI, CP. BLM21B751SPT
Z302	25E24596S01	EMI, CP. BLM21B751SPT

Coils / Thermistor

Symbol No.	Part No.	Description
L500	24E24499S01	Inductor, 1mH
L600	24E25077S01	Inductor, CP. 2.2μH
TH500	48E24557S01	Thermistor, CP. 20K ohm

Capacitors

Symbol No.	Part No.	Description
C300	08E24547S01	CP., 0.01μF
E300	23E25068S01	ELY., 100μF / 16V
C301	08E24648S01	CP., 0.1μF
E301	23E25068S01	ELY., 100μF / 16V
E302	23E24673S01	ELY., 100μF / 6.3V
E303	23E24673S01	ELY., 100μF / 6.3V
E304	23E25064S01	ELY., 47μF / 6.3V
E308	23E24673S01	ELY., 100μF / 6.3V
C397	23E25111S01	ELY., (B.P) 10μF / 16V
C398	23E25111S01	ELY., (B.P) 10μF / 16V
C399	23E25111S01	ELY., (B.P) 10μF / 16V
C500	08E24545S01	CP., 1000pF
C501	08E24547S01	CP., 0.01μF
E501	23E25110S01	ELY., 47μF / 16V
E502	23E25109S01	ELY., 22μF / 35V
C503	08E24549S01	CP., 0.033μF
E503	23E25109S01	ELY., 22μF / 35V
C504	08E24543S01	CP., 0.1μF
E504	23E25060S01	ELY., 3.3μF / 50V
C505	08E24662S01	CP., 2200pF
E505	23E25061S01	ELY., 10μF / 16V
C506	08E24548S01	CP., 4700pF
C507	08E25105S01	CP., 0.47μF
C599	23E25111S01	ELY., (B.P) 10μF / 16V
C600	08E24645S01	CP., 0.33μF
C601	08E25043S01	CP., 4700pF
C602	08E24545S01	CP., 1000pF
C603	08E25045S01	CP., 110pF

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Symbol No.	Part No.	Description
C604	08E24648S01	CP., 0.1μF
C605	08E24547S01	CP., 0.01μF
C606	08E24547S01	CP., 0.01μF
C607	08E24544S01	CP., 470pF
C608	08E24545S01	CP., 1000pF
C609	08E24545S01	CP., 1000pF
C610	08E24545S01	CP., 1000pF
C611	08E24545S01	CP., 1000pF
C612	08E24540S01	CP., 1μF
C613	08E24544S01	CP., 470pF
C614	08E24544S01	CP., 470pF
C616	08E24540S01	CP., 1μF
C617	08E24547S01	CP., 0.01μF
C618	08E24545S01	CP., 1000pF
C619	08E24545S01	CP., 1000pF
C620	08E24547S01	CP., 0.01μF
C621	08E24645S01	CP., 0.33μF
C622	08E24547S01	CP., 0.01μF
C623	08E24547S01	CP., 0.01μF
C624	08E25106S01	CP., 100pF
C625	08E25106S01	CP., 100pF
C626	08E24547S01	CP., 0.01μF
C627	08E24547S01	CP., 0.01μF
C628	08E24547S01	CP., 0.01μF
C650	08E24540S01	CP., 1μF

Resistors		(All resistors are chip 1/10W±5% unless otherwise noted.)
R300	08E25082S01	1K ohm
R301	08E24536S01	1K ohm 1/16W X 4
R306	08E25098S01	3.3 ohm
R307	08E25095S01	390 ohm
R308	08E25096S01	3.9K ohm
R309	08E25095S01	390 ohm
R500	08E24664S01	33K ohm
R501	08E25098S01	3.3 ohm
R502	08E25088S01	18K ohm
R503	08E25097S01	39K ohm
R504	08E25103S01	82K ohm
R505	08E25096S01	3.9K ohm
R506	08E25093S01	27K ohm
R507	08E25082S01	1K ohm
R508	08E25087S01	16K ohm
R509	08E25102S01	680 ohm
R510	08E25082S01	1K ohm

Symbol No.	Part No.	Description
R511	08E25092S01	1K ohm
R512	08E25086S01	12K ohm
R513	08E25089S01	22 ohm
R514	08E25100S01	4.7K ohm
R515	08E25100S01	4.7K ohm
R516	08E25099S01	470 ohm
R517	08E25100S01	4.7K ohm
R518	08E25082S01	1K ohm
R519	08E25099S01	470 ohm
R600	08E25100S01	4.7K ohm
R601	08E25093S01	27K ohm
R602	08E25094S01	330 ohm
R603	08E25101S01	47K ohm
R604	08E25083S01	10K ohm
R605	08E25098S01	3.3 ohm
R607	08E25084S01	100K ohm
R608	08E25091S01	2.2K ohm
R609	08E25098S01	3.3 ohm
R610	08E25092S01	2.7K ohm
R611	08E25081S01	100 ohm
R612	08E25092S01	2.7K ohm
R614	08E25090S01	220 ohm
R615	08E25090S01	220 ohm
R618	08E25104S01	390 ohm 1/16W X 4
R619	08E25104S01	390 ohm 1/16W X 4
R624	08E25085S01	1M ohm
R625	08E25085S01	1M ohm
VR500	18E25076S01	Variable, 22K ohm
VR600	18E24497S01	Variable, 50K ohm

SUB (1) P.C.Board

IC

IC160	51E25114S01	NJM386D

Transistors

Q540	48E24271S01	CP., UN2211
Q541	48E24679S01	CP., 2SB1205
Q900	48E24289S01	CP., 2SD1758
Q901	48E24289S01	CP., 2SD1758

Symbol No.	Part No.	Description
Coil / Transformer		
L900	24E24678S01	Inductor, 100μH
T900	25E24677S01	Transformer, Power 3000S59
Switches / Fuse		
S500	40E24281S01	Slide, ESD11H120 (POWER)
S501	40E24281S01	Slide, ESD11H120 (DIMMER)
F640	65E24287S01	Fuse, CCP2E13 (0.52A)
Capacitors		
C160	08E24645S01	CP., 0.33μF
C161	08E24662S01	CP., 2200pF
E161	23E25119S01	ELY., 220μF / 10V
C162	08E24648S01	CP., 0.1μF
E162	23E25120S01	ELY., 100μF / 6.3V
C163	08E24648S01	CP., 0.1μF
E163	23E25121S01	ELY., 22μF / 16V
E164	23E25122S01	ELY., 3.3μF / 50V
C169	08E24645S01	CP., 0.33μF
C250	08E24545S01	CP., 1000pF
E440	23E25120S01	ELY., 100μF / 6.3V
E540	23E25650S01	ELY., 33μF / 16V
E541	23E25121S01	ELY., 22μF / 16V
C900	08E24684S01	ECQV1J124JM, 0.12μF
E900	23E25119S01	ELY., 220μF / 10V
C902	08E24654S01	CP., 0.022μF
C903	08E24686S01	DE0707SL470J3K, 47pF
C904	08E24686S01	DE0707SL470J3K, 47pF
Resistors		(All resistors are chip 1/10W±5% unless otherwise noted.)
R170	08E25129S01	68 ohm 1/4W
R171	08E25129S01	68 ohm 1/4W
R172	08E25129S01	68 ohm 1/4W
R173	08E25083S01	10K ohm
R174	08E25082S01	1K ohm

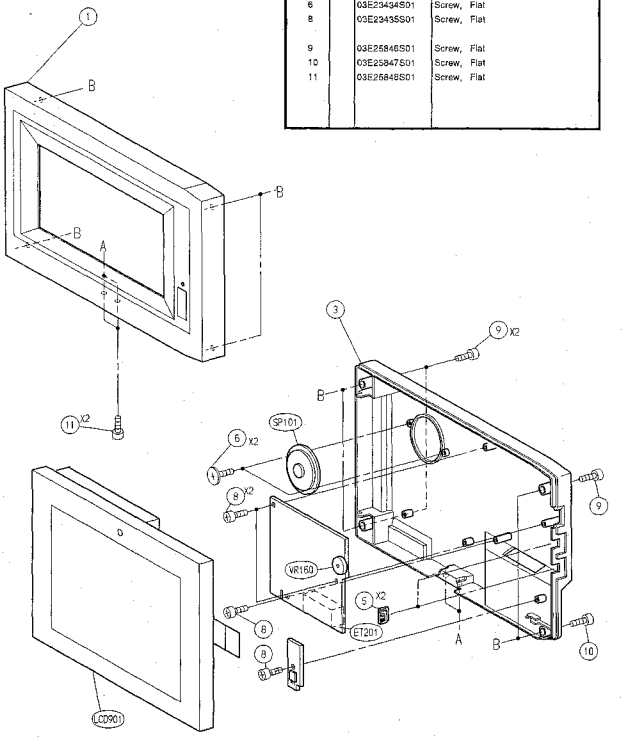
Symbol No.	Part No.	Description
R175	08E24684S01	33K ohm
R176	08E25100S01	4.7K ohm
R177	08E25129S01	68 ohm 1/4W
R547	08E24681S01	ERG1SG150P, 15 ohm 1W
R548	08E24616S01	180 ohm 1/4W
R549	08E24616S01	180 ohm 1/4W
R550	08E24680S01	ERG1SG120P, 12 ohm 1W
R551	08E24680S01	ERG1SG120P, 12 ohm 1W
R557	08E24683S01	10 ohm 1/8W
R558	08E25118S01	620 ohm
R559	08E25100S01	4.7K ohm
R900	08E25082S01	1K ohm
SUB (2) P.C.Board		
IC		
IC405	51E24290S01	PNA4602M00LB
LED		
LD500	48E24693S01	LED, SLR-33DU (ORG)
Miscellaneous		
ET201	09E24707S01	16P Connector (From TV Tuner Unit)
LCD901	01E25842S01	Assy., LCD Unit (Included Assy., Control P.C.Board)
SP101	50E25134S01	Speaker
VR160	18E24288S01	Volume, 5K ohm (VOLUME)

Exploded View (Cabinet)

Cabinet Assembly Parts List

NOTE:No parts number on parts list are not supplied.

Symbol No.	Index	Part No.	Description
1		01E25841S01	Assy., Case Surface
3		15E25845S01	Case, Bottom
5		36E23431S01	Lever, Switch
6		03E23434S01	Screw, Flat
8		03E23435S01	Screw, Flat
9		03E25846S01	Screw, Flat
10		03E25847S01	Screw, Flat
11		03E25848S01	Screw, Flat

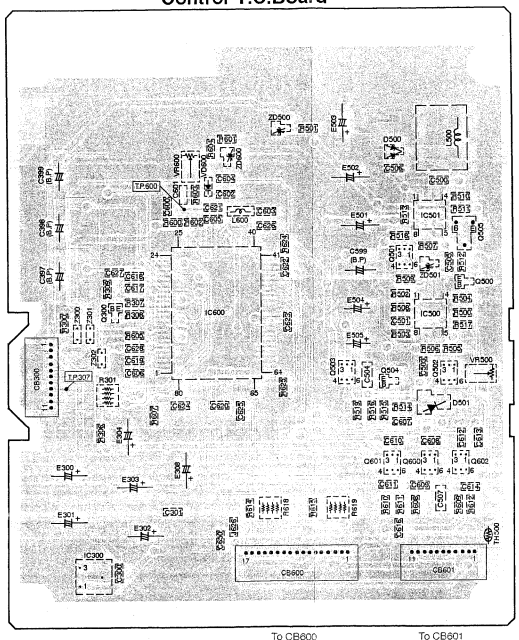


Parts Layout on P.C.Boards and Wiring Diagram

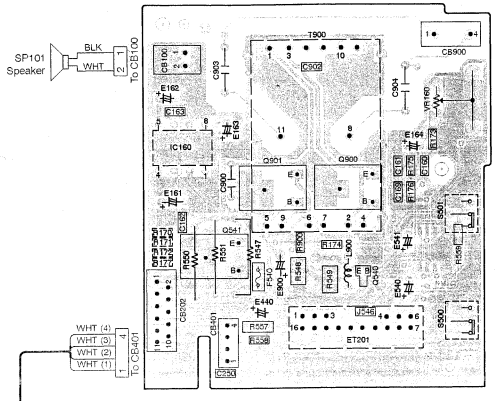
All P.C.Boards viewed from soldered side.

LCD901 Assy., LCD Unit

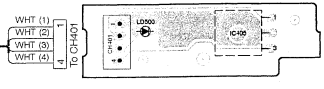
Control P.C.Board

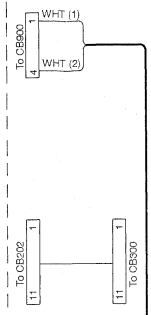


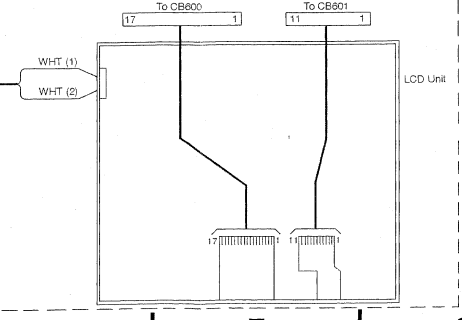
Sub (1) P.C.Board



Sub (2) P.C.Board







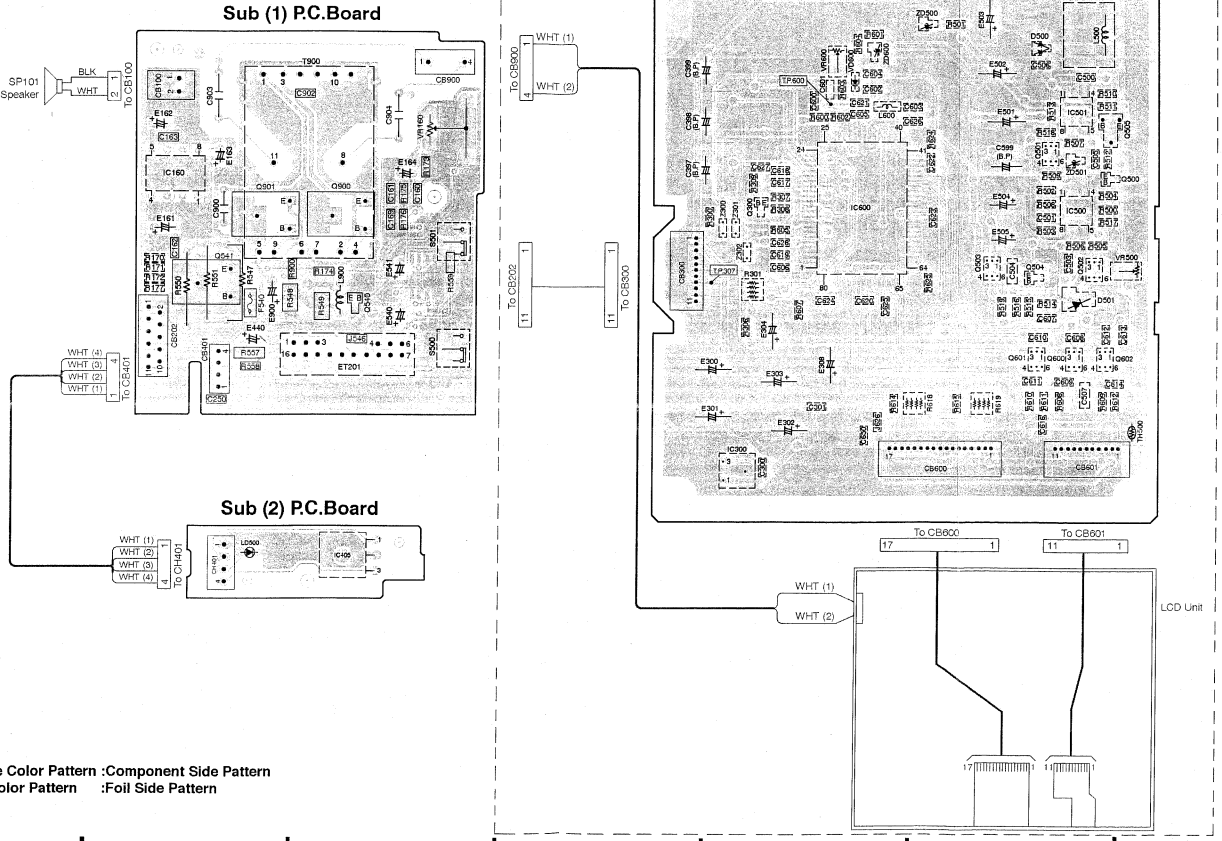
Orange Color Pattern :Component Side Pattern
Blue Color Pattern :Foil Side Pattern

1 2 3 4 5

A B C D E F G

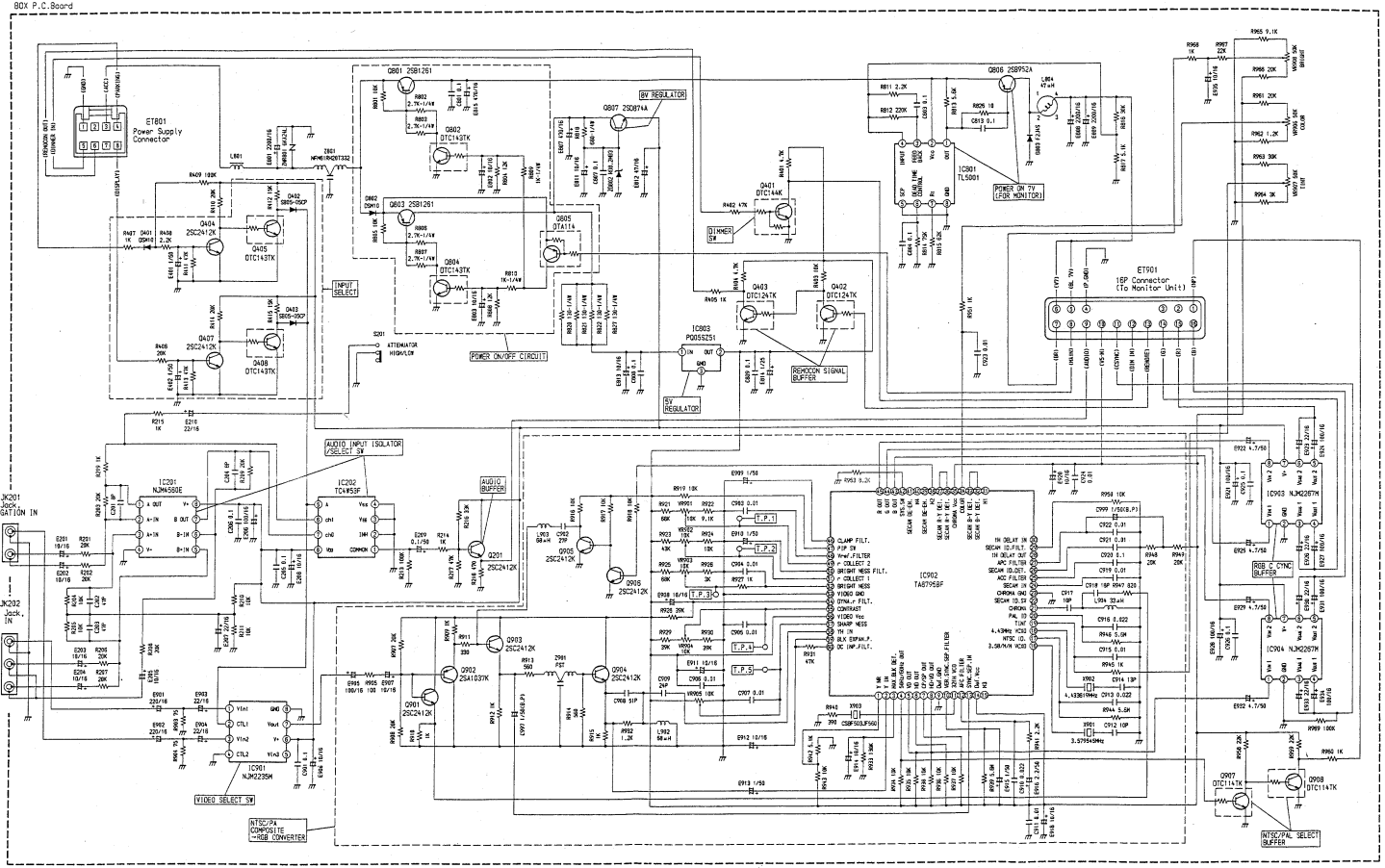
Parts Layout on P.C.Boards and Wiring Diagram

All P.C.Boards viewed from soldered side.



Orange Color Pattern :Component Side Pattern
Blue Color Pattern :Foil Side Pattern

Schematic Diagram



Terminal Voltage of IC/TR

IC201

8	8V

IC803

1	5V
3	10.5V

IC902

35	5V

IC903, 904

7	8V

	E	C	B
Q801	14.2V	14.1V	—
Q803	13.4V	13.3V	—
Q805	13.4V	—	—
Q806	14V	PS	—
Q807	8.1V	13.3V	—

NOTE : For the terminal voltage not mentiond, the voltage indication is omitted for the voltage varies depend on the operation mode.

[Measuring Conditions]

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Conditions : Monitor Unit Connection

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μF=microfarads,pF=picofarads

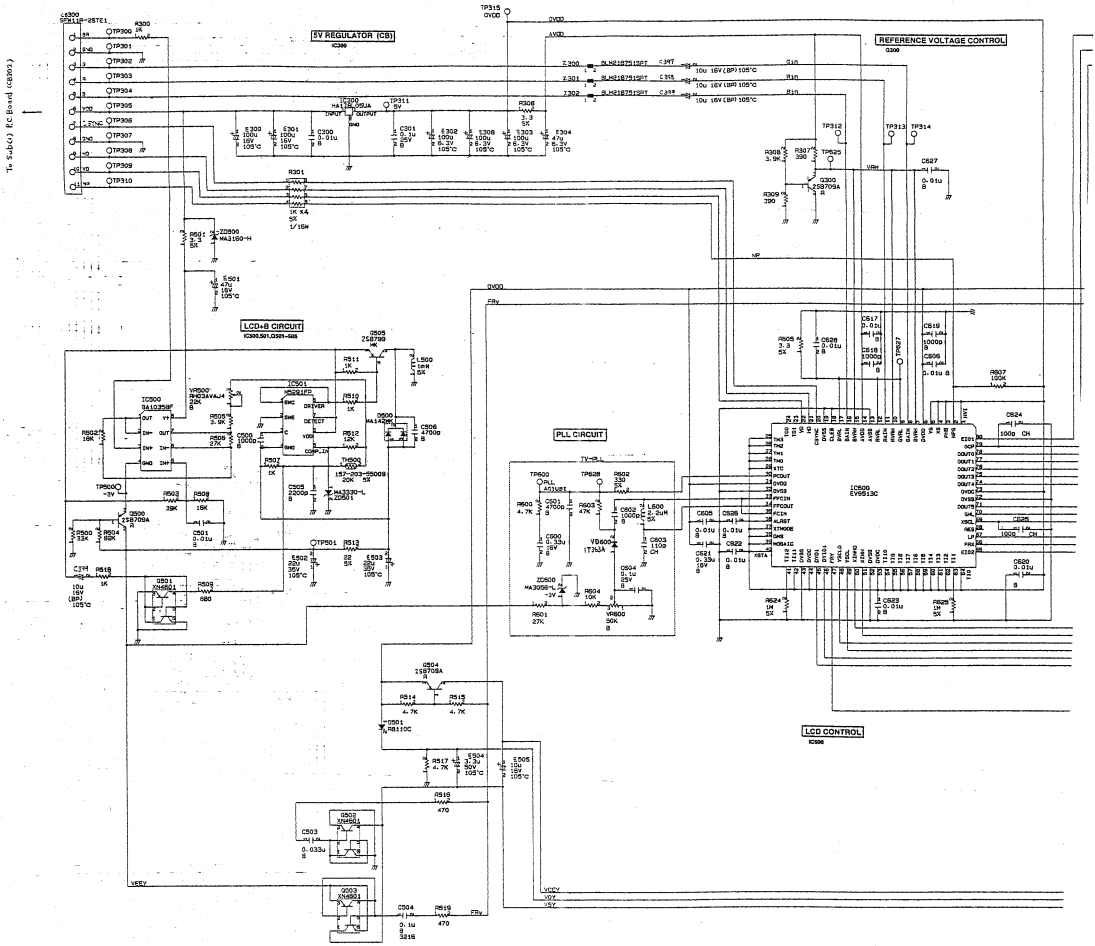
Abbreviations

RES.= Resistor
C.F.= Carbon Film
M.F.= Metal Film
M.O.= Metal Oxide Film
M.P.= Metal Plate
TR. = Transistor
TRANS.= Transformer
CP. = Chip
CAP.= Capacitor
ELY.= Electrolytic
CER.= Ceramic
MYL.= Mylar
TAN.= Tantalum
POLY.= Polystyrol
PP. = Polypropylene
PLT.= Polyethylene
PF. = Polyester Film

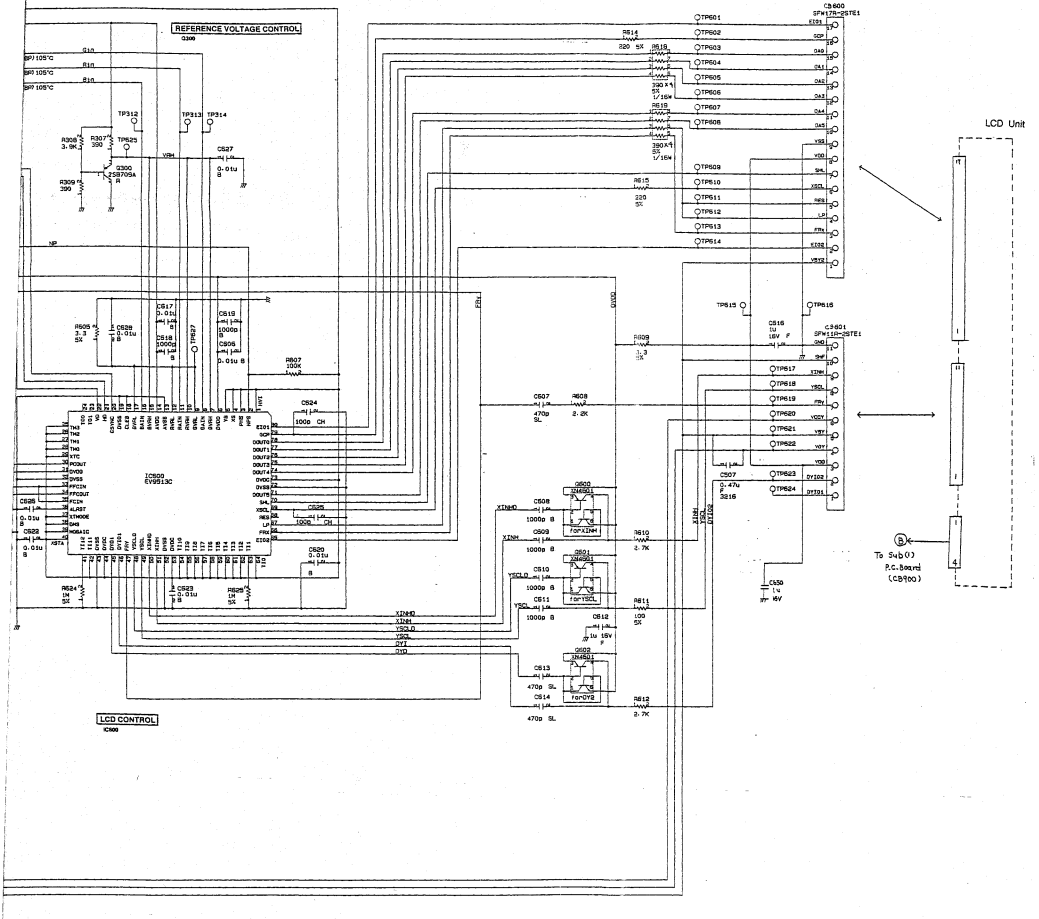
Symbol No.	Part No.	Description
BOX P.C.Board		
IC's		
IC201	51T93338F01	NJM4560E
IC202	51T45178W02	TC4W53F
IC801	51T75523W01	TL5001
IC803	51T85483W02	PQ05SZ51
IC901	51T65249W01	NJM2235M
IC902	51T85451W01	TA8795BF
IC903	51T85419W01	NJM2267M
IC904	51T85419W01	NJM2267M
Transistors		
Q201	48T63417F01	CP., 2SC2412K
Q401	48T62967F04	CP., DTC144K
Q402	48T62967F21	CP., DTC124TK
Q403	48T62967F21	CP., DTC124TK
Q404	48T63417F01	CP., 2SC2412K
Q405	48T62967F23	CP., DTC143TK
Q407	48T63417F01	CP., 2SC2412K
Q408	48T62967F23	CP., DTC143TK
Q801	48T15511W02	CP., 2SB1261
Q802	48T62967F23	CP., DTC143TK
Q803	48T15511W02	CP., 2SB1261
Q804	48T62967F23	CP., DTC143TK
Q805	48T62966F02	CP., DTA114
Q806	48T85527W01	CP., 2SB952A
Q807	48T73023F01	CP., 2SD874A
Q901	48T63417F01	CP., 2SC2412K
Q902	48T63420F01	CP., 2SA1037K
Q903	48T63417F01	CP., 2SC2412K
Q904	48T63417F01	CP., 2SC2412K
Q905	48T63417F01	CP., 2SC2412K
Q906	48T63417F01	CP., 2SC2412K
Q907	48T62967F09	CP., DTC114TK
Q908	48T62967F09	CP., DTC114TK

Symbol No.	Part No.	Description
Diodes		
D401	48T15512W01	CP., DSM10
D402	48T15702W01	CP., SB05 -05CP
D403	48T15702W01	CP., SB05 -05CP
D802	48T15512W01	CP., DSM10
D803	48T75066W01	CP., F2J4S
ZD802	48T62934F35	Zener, CP. RD8.2MB3
Coils		
L801	25C40894G10	Choke Filter
L804	24T75266W09	Inductor, 47μH
L902	24T75195W48	Inductor, CP. 68μH
L903	24T75195W48	Inductor, CP. 68μH
L904	24T75195W44	Inductor, CP. 33μH
Crystals		
X901	91T94641F02	3.579545MHz
X902	91T94641F22	4.433619MHz
X903	91T85054W02	CER. Lock, CP. CSBF503JF560 (512KHz)
Filters		
Z801	91T55325W08	CP., NFM61RH20T332
Z901	91T85504W01	CP., FST (2.3MHz)
Surge Absorber		
ZNR801	48T85018W01	6KA24L
Capacitors		
C201	08S65128F10	CP., 8pF
E201	23T75478W15	ELY., 10μF / 16V
C202	08S65128F27	CP., 47pF
E202	23T75478W15	ELY., 10μF / 16V
C203	08S65128F27	CP., 47pF
E203	23T75478W15	ELY., 10μF / 16V
C204	08S65128F10	CP., 8pF
E204	23T75478W15	ELY., 10μF / 16V
C205	08S65128F76	CP., 0.1μF

Schematic Diagram (1/2)



Control P.C.Board



Control P.C.Board